

## REMARKS

### *Status of the Claims*

Claims 1-19 are pending, with claim 1 being the sole independent claim. Claim 1 has been amended to include the subject matter of claim 2. The film former is now specifically identified as polyvinylpyrrolidone. Claim 2 has accordingly been cancelled. No new matter has been added.

Applicant respectfully requests the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and following remarks.

### *Claim Rejections Under 35 U.S.C. § 102/103*

Claims 1-9 stand rejected under 35 U.S.C. § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) over DE 19818046 ("Schmid"). Applicant respectfully disagrees with this rejection; therefore, this rejection is respectfully traversed.

Schmid discloses an aqueous sizing agent for the treatment of glass fabric fibers, preferably for the production of glass rovings or yarn, containing a film forming agent that following thermal treatment has no condensable groups and at least an adhesion promoter. Also disclosed are coated glass fibers as roving or yarn that have been treated with the aqueous sizing agent and heat treated; and a composite material prepared from the coated glass fibers and polylactam prepared by anionic polymerization of lactam in the presence of the coated glass fibers. (Abstract).

More specifically, Schmid describes aqueous glass fiber sizing, sized glass fibers, and laminates comprising the sized glass fibers in a polylactam matrix. The basic invention of Schmid relates to a sizing which does not negatively influence the polymerization process of lactam during the production of the fiber-reinforced laminates, and which does provide improvements of the fiber reinforced polylactam laminates, mainly good adhesion between glass and matrix, reduced glass corrosion, and improved thermal stability which leads to reduced coloring effects and increased mechanical values.

Basically, Schmid is directed towards a glass fiber sizing useful for fiber-reinforced polylactam laminates. The sizing components have been selected accordingly. Schmid teaches that the compatibility of the glass fibers in / with a polylactam matrix can be improved if the two film formers polyvinylpyrrolidone and polyamidoamide are used.

In contrast, amended independent claim 1 recites a glass fiber size comprising water, one film-former specifically polyvinylpyrrolidone, an adhesion promoter and an organic acid for establishing a pH in the acidic range.

The presently claimed size provides a reduction of corrosion, good cutting performance, a good wetting performance and stiffness of the filaments. Schmid does not provide any hints how to reach these goals. Neither does Schmid provide any guidance that one can achieve these goals by using polyvinylpyrrolidone alone as the film former, together with only an adhesion promoter and an organic acid. It is quite surprising that such a simple glass fiber size can achieve such benefits. The prior art is devoid of such recognition.

The presently claimed size can be used in fiber dispersions according to the wet-laying method. The sizing is particularly suitable for erasing fibers. In contrast, Schmid relates to the improvement of compatibility of glass fibers to polylactam matrices.

Schmid fails to disclose the presently claimed glass fiber size comprising, *inter alia*, only polyvinylpyrrolidone as the film former. Rather, Schmid discloses film-formers comprising polyvinylpyrrolidone **and** polyamidoamide. (See, for example, the examples on page 6 of Schmid, referred to on page 3 of the Office Action).

Neither can Schmid direct one to, and thereby render obvious, the claimed glass fiber size, because Schmid is directed specifically to a size useful in working with a polylactam matrix. The components have been specifically chosen, and two film formers are required. Removing one as suggested by the Examiner would destroy the teachings of Schmid, as well as the function of the size. This is improper when considering a reference.

For at least the above reasons, withdrawal of the rejection of claims 1-19 over Schmid is respectfully requested.

***Conclusion***

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

JOHNS MANVILLE

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By: /rdt/  
Robert D. Touslee  
Registration No. 34,032

Customer No. 29602